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J. PIEF

1,812,367

ARTICLE OF MANUFACTURE FOR WRIST WATCH CRYSTALS

Filed Feb. 4, 1929

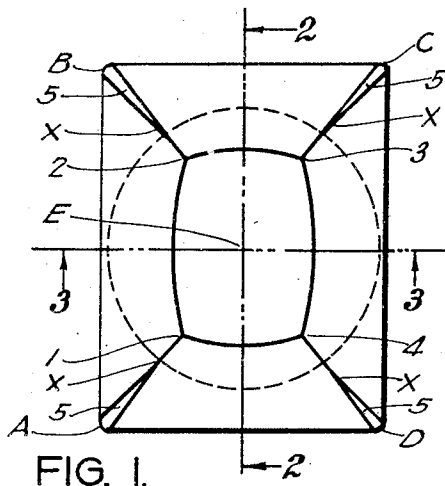


FIG. 1.

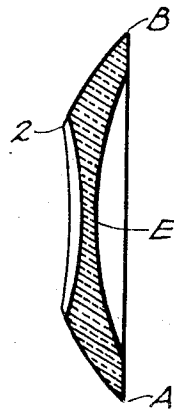


FIG. 2.

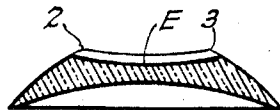


FIG. 3.

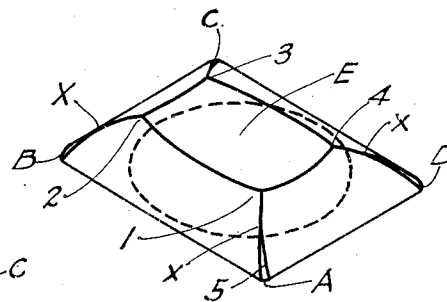


FIG. 5.

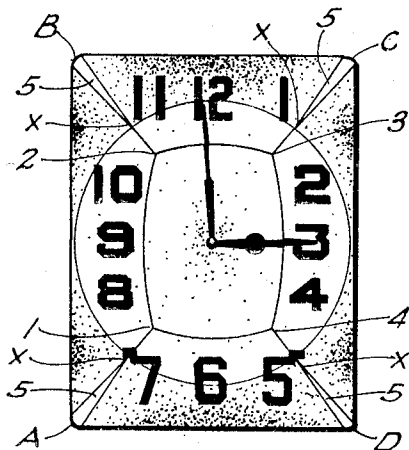


FIG. 4.

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ARTICLE OF MANUFACTURE FOR WRIST-WATCH CRYSTALS

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My invention relates to a wrist-watch crystal as an article of manufacture.

The objects of my invention are to produce a device of the class described which will be
 5 new, and useful; which will be novel, practical and of utility; which will be strong, durable and economical; which will last longer than the ordinary and usual wrist-watch crystal; which will have the appearance and
 10 effect of a jeweled wrist-watch crystal; which will concentrate and refract rays through the face of the watch crystal toward and surrounding the figures on the face of the watch giving better vision to the numerals and
 15 hands of the watch; which will be thicker than the usual wrist-watch crystal; which will have the appearance of being much thicker than it really is; which will withstand dropping of the watch on the crystal
 20 without the breaking of the crystal; which will produce the effect of being able to see clearly the face of the watch and characters thereon from every angle at which the crystal is viewed except through the small beveled
 25 corners; which has the effect of making the figures on the face of the watch appear larger than they really are; which will be attractive and beautiful; which will be made of optical glass giving clear vision; which will accomplish all of the purposes for which it is
 30 intended.

At present the ordinary small sizes in which most of the wrist-watches are necessarily made, prevent their having large and
 35 thick crystals thereon. Almost everyone having had experience with the use of wrist-watch crystals thereon knows the frequency with which the crystals are broken, and of the almost constant necessity of their being
 40 replaced by new ones; and that unless these are effectively and correctly replaced the new one put in lasts but a short time. Some effort has been made to compensate the breaking quality and frequent replacement of the
 45 crystals by using what is sometimes termed, non-breakable crystals, formed of mica, celluloid, and the like. These have not proven satisfactory. They are cheap looking, and are likely to be bent in on the hands of the
 50 watch causing injury to the hands and face

and possibly other working parts of the watch. They become scratched easily which obstructs the vision therethrough. They may be easily destroyed by fire.

My invention overcomes the danger of
 55 breakage by not only being heavier and thicker than the usual watch crystal, but by the fact that the shape thereof tends to strengthen the crystal. It may be dropped from waist high upon concrete with no danger of
 60 breaking. As it is optical glass it is of course practically immune from damage by fire, such as from lighted cigarettes, and the like. My invention has the appearance of being a
 65 jewel instead of a watch crystal, which makes it very much more attractive than the present crystal. It is in fact beautiful.

With these and other objects in view as will more fully appear from my invention consists in the construction, novel features,
 70 and combination of parts hereinafter more fully described, pointed out in the claims hereto appended, and illustrated in the accompanying one-sheet drawing, of which,

Figure 1 is a plan view of the watch crystal; Fig. 2 is a section along the line of 2—2
 75 of Fig. 1; Fig. 3 is a section along the line of 3—3 of Fig. 1; Fig. 4 is a plan view of a watch face with the crystal thereover; Fig. 5 is a perspective view of the watch crystal
 80 showing the jewel effect of the crystal on the watch.

Like characters of reference designate like parts in all the figures.

It is understood that various changes in the
 85 form, proportion, size, shape, weight and other details of construction, within the scope of my invention may be resorted to without departing from the spirit or broad principle of my invention and without sacrific-
 90 ing any of the advantages thereof; and it is also understood that the drawings are to be interpreted as being illustrative and not restrictive.

A practical embodiment of the invention
 95 as illustrated in the drawings includes: It will be seen in Figures 1, 4 and 5 that the outer edges of my crystal, which is made out of optical glass, form a rectangle, bounded
 100 by lines A—B, B—C, C—D and A—D, the

corners of which are represented as A, B, C and D, which fit into the grooves formed therefor in the frame or case of a watch. The under surface of said crystal is, at the edges represented by said lines, A—B, B—C, C—D and A—D perfectly flat. If placed bottom downward upon a flat table, said crystal would touch said table at all points represented by said lines A—B, B—C, C—D, and A—D. The underside of said crystal surrounding its center is circularly concave from all directions to a point E in the center of same, as may better be seen in Figs. 2 and 3. The upper surface of said crystal is invertedly concave from points 1, 2, 3 and 4 to point E in the center of crystal. The outer side edges of said crystal are convex from line A—B to curved line 1—2, and from line B—C to curved line 2—3, also from line C—D to curved line 3—4 and also from line A—D, to curved line 4—1. It will be noted that lines 1—2, 2—3, 3—4, and 4—1 are slightly curved outwardly. It will also be noted that the corners formed at lines A—1, B—2, C—3 and D—4, are beveled from points X, to respective corners A, B, C and D, forming a flat surface at each corner of said crystal, which is tapered to an acute triangular shape as shown at 5. This may be better seen in Figs. 1, 4 and 5. It may readily be seen that the crystal is thinner at point E than at any other point, and that its highest points are represented by curved lines 1—2, 2—3, 3—4 and 4—1.

Obviously, the invention is susceptible of embodiment in forms other than that which is illustrated in the accompanying drawings and described herein, and applicable for the uses and purposes other than as detailed, and I therefore consider as my own all such modifications and adaptations and other uses of the form of the device herein described as fairly fall within the scope of my invention.

Having thus described my invention what is claimed and desired to be secured by Letters Patents, is:

1. As an article of manufacture, a wrist-watch crystal, as described, comprising a rectangularly shaped body having oppositely concave surfaces on its lower and upper faces and having outer side and end convex edges its bottom edge portion flat, said outer convex edges having a small plane surfaced triangularly shaped beveled portion at the meeting corners of said side and end convex edges, said crystal being adapted to fit over a wrist-watch face.

2. As an article of manufacture, a wrist-watch crystal, as described, comprising a rectangularly shaped body having a portion of its under surface circularly concave surrounding its center, having a portion of its upper surface oppositely uniformly concave surrounding its center, having portions of its upper side edges convex to a point adjacent

the external meeting corners, its bottom edge portion flat, a portion at each of said corners upon its upper edge portion having a plane beveled triangularly shaped surface, said crystal being adapted to fit over a wrist-watch face.

3. As an article of manufacture, a wrist-watch crystal, as described, comprising a rectangularly shaped body having a portion of its under surface circularly concave surrounding its center, having a portion of its upper surface oppositely uniformly concave surrounding its center, the radius length of said two oppositely concave surfaced portions being equal, said body having the upper portions of its side edges uniformly convex to a point adjacent the external meeting corners, its bottom edge portion flat, a portion of each of said corners having a plane beveled triangularly shaped upper surface, said crystal being adapted to fit over a wrist-watch face.

4. As an article of manufacture, a wrist-watch crystal, as described, comprising a rectangularly shaped body formed from optical glass having a portion of its inner under surface circularly concave surrounding its center, having a portion of its upper surface oppositely uniformly concave surrounding its center, the radius length of said two oppositely concave surfaced portions being equal, said body having upper portions of its side edges uniformly convex to a point adjacent the external meeting corners, its bottom edge portion flat, a portion of each of said corners having a plane beveled triangularly shaped upper surface, said crystal being adapted to fit over a wrist-watch face.

JOHN PIEF.